

REMARKS

The Examiner's Action mailed on October 8, 2003 has been received and its contents carefully considered.

In this Amendment, claim 1 has been amended to include the subject matter of claim 20, claim 20 has been canceled, and claim 21 has been added to the application. Claim 1 is the independent claim. Claims 1 and 21 are pending in the application. For at least the following reasons, it is submitted that this application is in condition for allowance.

The Examiner has rejected claims 1 and 20 as being obvious in view of *Toyoda* (JP 10-4152) in view of *Coico et al.* (USP 6,278,193). Because claim 20 has been canceled, Applicant will treat this rejection as pertaining only to claim 1. It is submitted that this claim is patentably distinguishable over the cited references for at least the following reasons.

Applicant's independent claim 1 is directed to a semiconductor device which includes a semiconductor substrate having a circuit forming surface. A semiconductor element is mounted on the circuit forming surface. A plurality of adhesive lines which are adapted for use as reference lines are disposed under the semiconductor element and on the circuit forming surface. The adhesive lines adhere the semiconductor element to the circuit forming surface of the semiconductor substrate. The adhesive lines are respectively provided at positions corresponding to at least three corners of the semiconductor element. The reference lines extend beyond and outside an area that is sealed by said sealing resin.

This claimed configuration allows semiconductor elements of varying sizes to be accurately placed, while allowing the semiconductor element to be easily adhered to a semiconductor substrate. Further, this configuration allows moisture to more readily evaporate, reducing evaporation stress, and thereby eliminating popcorn cracks. These and other advantages of the claimed invention are discussed in Applicant's specification on page 10, line 1, through page 12, line 10, and page 19. This claimed configuration is neither disclosed nor suggested by the cited references.

Toyoda teaches a semiconductor device that includes a semiconductor element 29. A metal membrane 39 may be formed over a pattern 17. Both the pattern 17 and the metal membrane 39 have a star shaped configuration (see Figures 2, 9, 10 and 12). This reference teaches that the semiconductor element 29 is disposed over the metal membrane 39, and is adhered thereto, using an intervening adhesive 27. The shape of the adhesive is not shown, but it is presumed to have the same shape as the semiconductor element 29, i.e., a square shape. In order to prevent the formation of popcorn cracks, this reference teaches forming thermal via holes 15, and filling these via holes with resin.

However, and in contrast to the present invention, this reference does not disclose or otherwise suggest a plurality of adhesive lines that are adapted for use as reference lines, as recited by Applicant's independent claim 1. The Examiner's Action has stated that this reference teaches a plurality of adhesive lines that are adapted as reference lines. However, and as noted above, there is no apparent disclosure or teaching from this patent that the adhesive 27 is anything more than an intervening layer. In particular, there is no disclosure or suggestion that this adhesive layer 27 is a

plurality of adhesive lines, as recited in claim 1. Further, there is also no disclosure or teaching from this reference that this adhesive layer 27 is adapted for use as reference lines, which are respectively provided at positions corresponding to at least three corners of the semiconductor element.

The Examiner's Action contends that the adhesive layer is a plurality of lines, because the cited reference discloses that the adhesive is disposed on the diamond touch pattern. However, such disclosure is not contrary to the above assertion presented by Applicant. That is, the adhesive 27 can be (and presumably is) disposed on the diamond touch pattern, even if the adhesive 27 is simply an intervening layer and has the same shape as the semiconductor element 29, i.e., a square shape.

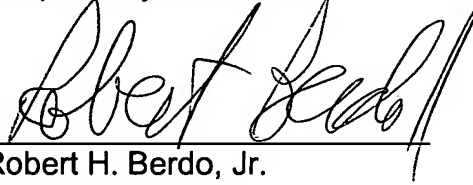
Further, the Examiner's Action contends that the cited reference teaches reference lines that extend beyond and outside an area that is sealed by the sealing resin. However, it is respectfully submitted that the reference does not disclose or suggest this feature. While it is acknowledged that the diamond star pattern 17 and the adhesive 27 extend from under the semiconductor element 29, it is noted that these features are entirely covered by the resin 41. Thus, this reference does not teach a reference line that extends outside of an area that is sealed by a sealing resin, as recited in claim 1.

The Examiner's Action also relies on *Coico et al.* as teaching a semiconductor substrate. However, this reference fails to overcome any of the above noted deficiencies of *Toyoda*. As such, it is submitted that the Examiner's Action has failed to establish a *prima facie* case of obviousness against claim 1. It is thus requested that this claim be allowed and it is further requested that this rejection be withdrawn.

It is submitted that this application is in condition for allowance. Such action and the passing of this case to issue are requested.

Should the Examiner feel that a conference would help to expedite the prosecution of the application, the Examiner is hereby invited to contact the undersigned counsel to arrange for such an interview.

Respectfully submitted,



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Date

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